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DESCRIPTION OF A NEW SPECIES OF *PLACONOTUS* MACLEAY FROM KENYA, WITH NOTES ON THE MALE TERMINALIA OF OTHER AFRICAN SPECIES (COLEOPTERA: CUCUJIDAE (SENS. LAT.): LAEMOPHLOEINAE)

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Abstract.—*Placonotus embuensis,* n. sp., is described from Kenya. Illustrations of the habitus, male terminalia, and microsculpture are provided. Diagnostic structures of male terminalia of five additional African species of *Placonotus* [*P. bolivari* (Grouvelle), *P. decoratus* (Grouvelle), *P. donacioides* (Wollaston), *P. mestus* Lefkovitch, and *P. mossus* Lefkovitch] are also illustrated.

Lefkovitch (1962) listed 13 species of *Placonotus* MacLeay, including eight previously undescribed, from sub-Saharan Africa, Madeira, the Canaries, Madagascar, and the Seychelles. Lefkovitch (1965) recorded two of these from the Arabian peninsula. Slipinski (1984) added a third African species to the Arabian fauna and described a new species from Saudi Arabia that also may be found in eastern Africa. Thomas (1984) recorded two African species from the New World. These are apparently the only contemporary taxonomic references on the African species of *Placonotus.* Recently I discovered specimens of an undescribed African species in material from the Museum d'Histoire Naturelle, Geneva, which is described below.

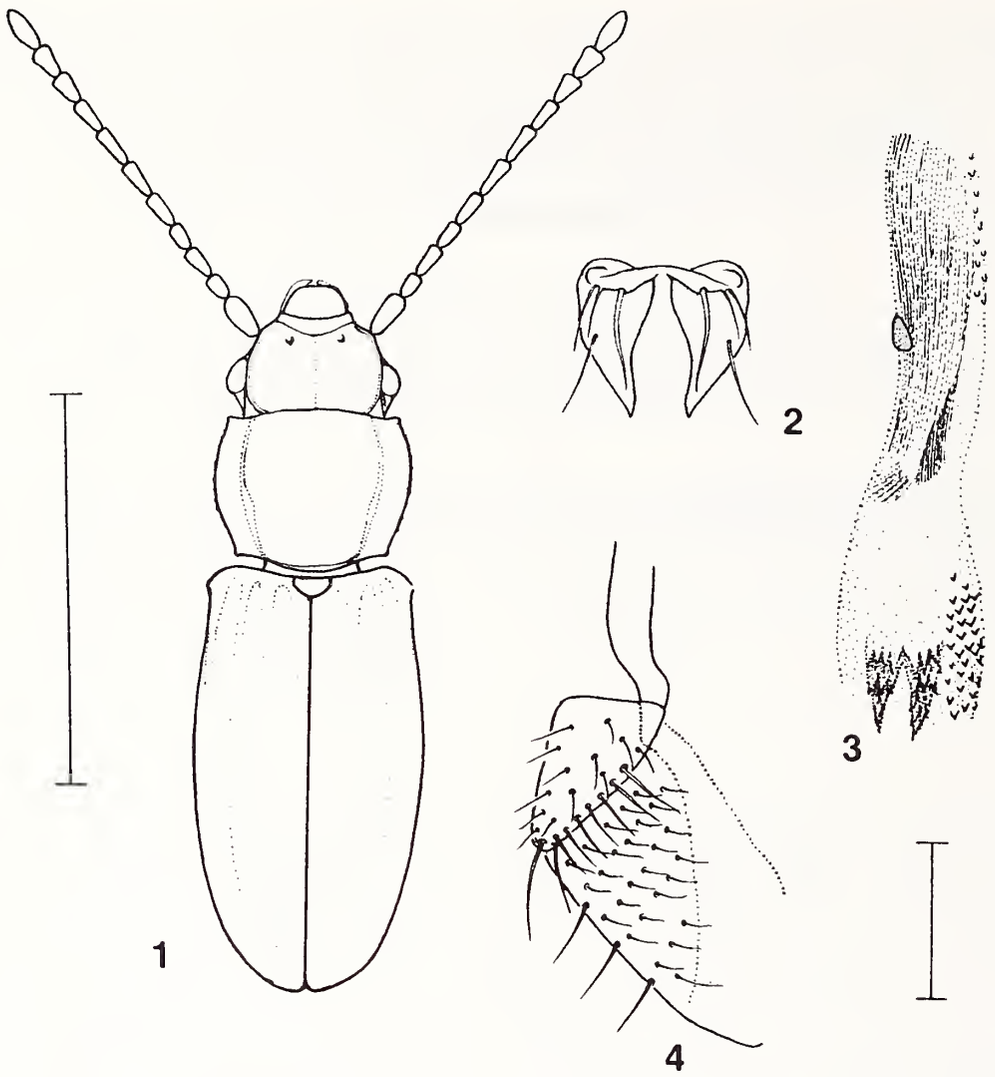
Placonotus embuensis, new species

Figs. 1–6

Diagnosis. The combination of the following character states makes individuals of this species easily recognized in the African fauna: punctate, microreticulate dorsal surface of head and pronotum (Fig. 5); distinctive shape of the pronotum (Fig. 1); bituberculate frons in the male (Figs. 1, 6); and structure of the male genitalia and eighth abdominal segment, the combination of which I am calling the terminalia (Figs. 2–4).

Description. Form. Elongate, narrow; testaceous, legs and mouthparts paler. Length, 1.7 mm.

Head. Transverse, much broader across eyes than length from apex of epistome to base (1:1.8); lateral lines represented by ridge, associated groove more or less obscured by surface sculpture; frontoclypeal line represented by groove, more or less obscured laterally, distinct medially; mandibles not expanded laterally; punctures of disc larger in diameter than an eye facet, shallow, separated mostly by 2–3 diameters, each subtending a short, pale, inconspicuous seta; surface between punctures appearing matte due to microreticulation, more pronounced laterally than medially; a blunt tubercle located posterior to frontoclypeal line on each side about midway



Figs. 1–4. *Placonotus embuensis* Thomas. 1. Habitus of holotype male. 2. Parameres. 3. Sclerotization of internal sac. 4. Eighth abdominal segment, dorsal view. For Figure 1, line = 1.0 mm; for other figures line = 0.006 mm.

between median longitudinal line and antennal insertion; antennae elongate, filiform, attaining about basal third of elytra.

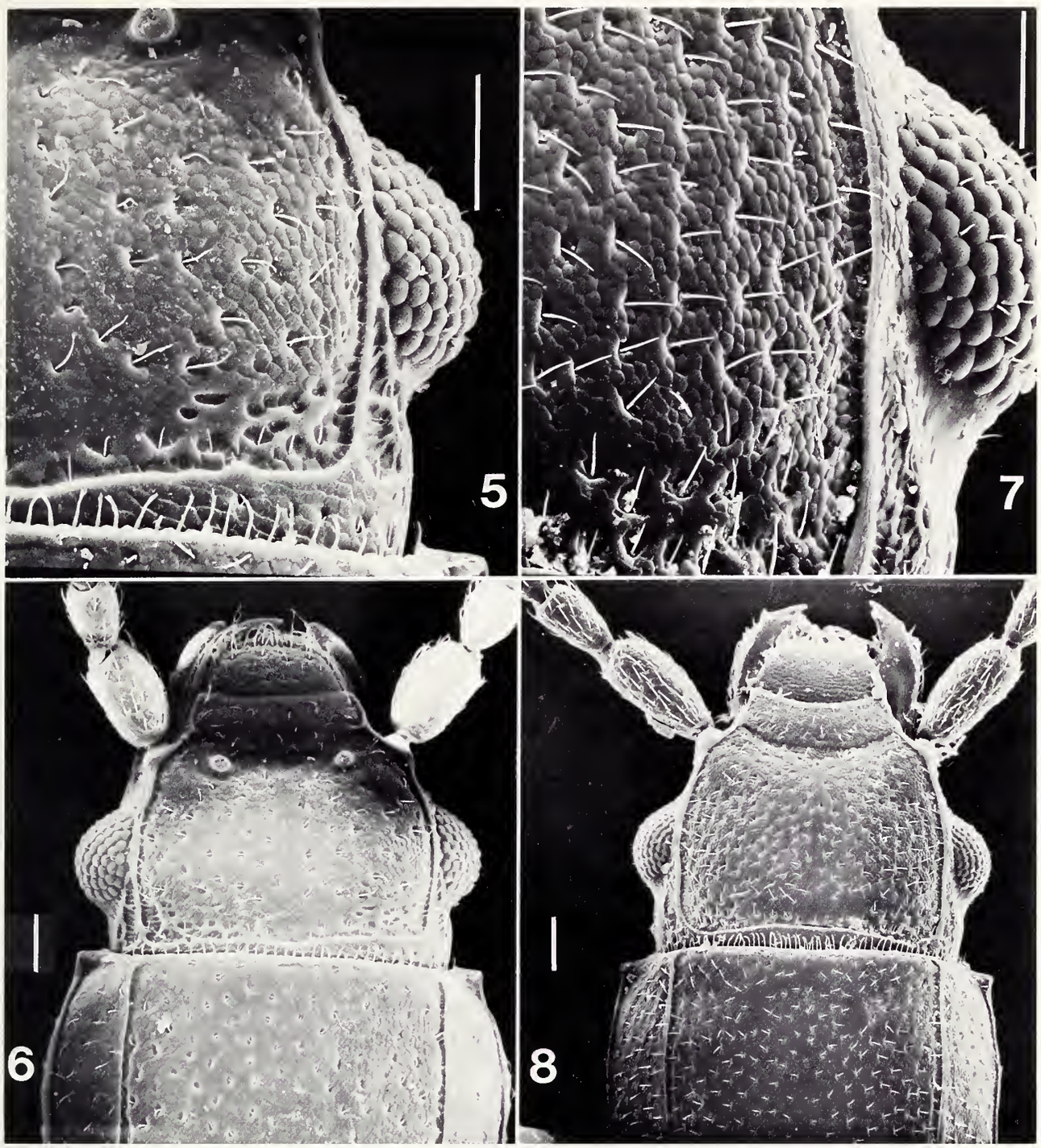
Pronotum. Transverse (1:1.3), distinctly rounded laterally, more so than usual for genus, broadest at about apical third; anterior angles obtuse, produced, slightly deflexed; posterior angles obtuse; sublateral lines as for genus; lateral margins minutely denticulate, especially posteriorly; punctation, sculpture, and pubescence as for head.

Elytra. Length : width ratio, 1.7:1; broadest just behind middle; conjointly rounded to apices, not subtruncate, exposing only tip of last visible abdominal segment; base of third elytral cell distinctly impressed, remainder of cells obsolescent, represented by longitudinal lines of shallow punctures; surface otherwise apparently impunctate, strongly microreticulate; pubescence consisting of scattered short, pale, inconspicuous setae.

Terminalia as in Figures 2–4.

Variation. The single male paratype is 1.6 mm in length; the two female paratypes are 1.9 mm and 2.0 mm in length. In the females, the antennae are proportionally shorter and the lateral margins of the pronotum less rounded.

Holotype. Male, in the Museum d'Histoire Naturelle, Geneva, with following data:



Figs. 5–8. SEM photographs of microsculpture of head and of head and pronotum of *Placonotus* spp. 5–6. *P. embuensis* Thomas. 7–8. *P. donacioides* (Wollaston). Line = 0.05 mm.

"KENYA Embu Irangi Forest St. 2000m. 11.X.77 MAHNERT PERRET" [terminalia dissected and glued to paper point with specimen].

Paratypes. Three, as follows: 1 male (gold sputter-coated for scanning electron microscopy), 2 females, all same data as holotype. The male paratype is deposited in the Florida State Collection of Arthropods, females in the Museum d'Histoire Naturelle.

DISCUSSION

Individuals of this species go to couplet 4 in Lefkovitch's key to the African species of *Placonotus* (Lefkovitch, 1962), where they do not agree with either alternative. In

their dull surface sheen (due to strong microreticulation) they are closest to *P. donacioides* (Wollaston) and *P. mossus* Lefkovitch. In the former, individuals are larger, the lateral margins of the pronotum are much less rounded (Fig. 8), the punctation of the dorsal surface denser (Fig. 7), and the male terminalia are much different (Figs. 10, 15, 17). Individuals of *P. mossus* lack dorsal punctation, have the lateral margins of the pronotum less rounded, and the male terminalia are different (Figs. 13, 14, 20). The frontal tubercles of male *P. embuensis* are unique among known species of *Placonotus*. The following replaces couplet 4 in the key to African species of *Placonotus*:

4. Dorsal surface of head and pronotum heavily microreticulate between punctures, so that surface appears dull ..... *embuensis* Thomas
– Dorsal surface of head and pronotum not or slightly microreticulate; surface between punctures not dull 4a
4a. Smaller species (about 1.5–2 mm); pronotum distinctly transverse and head punctate; elytra 2.5–3.0 times as long as their combined width 5
– Larger species (about 1.8–2.3 mm); pronotum about as broad as long or if transverse, then head impunctate; elytra usually less than 2.5 times as long as their combined width 6

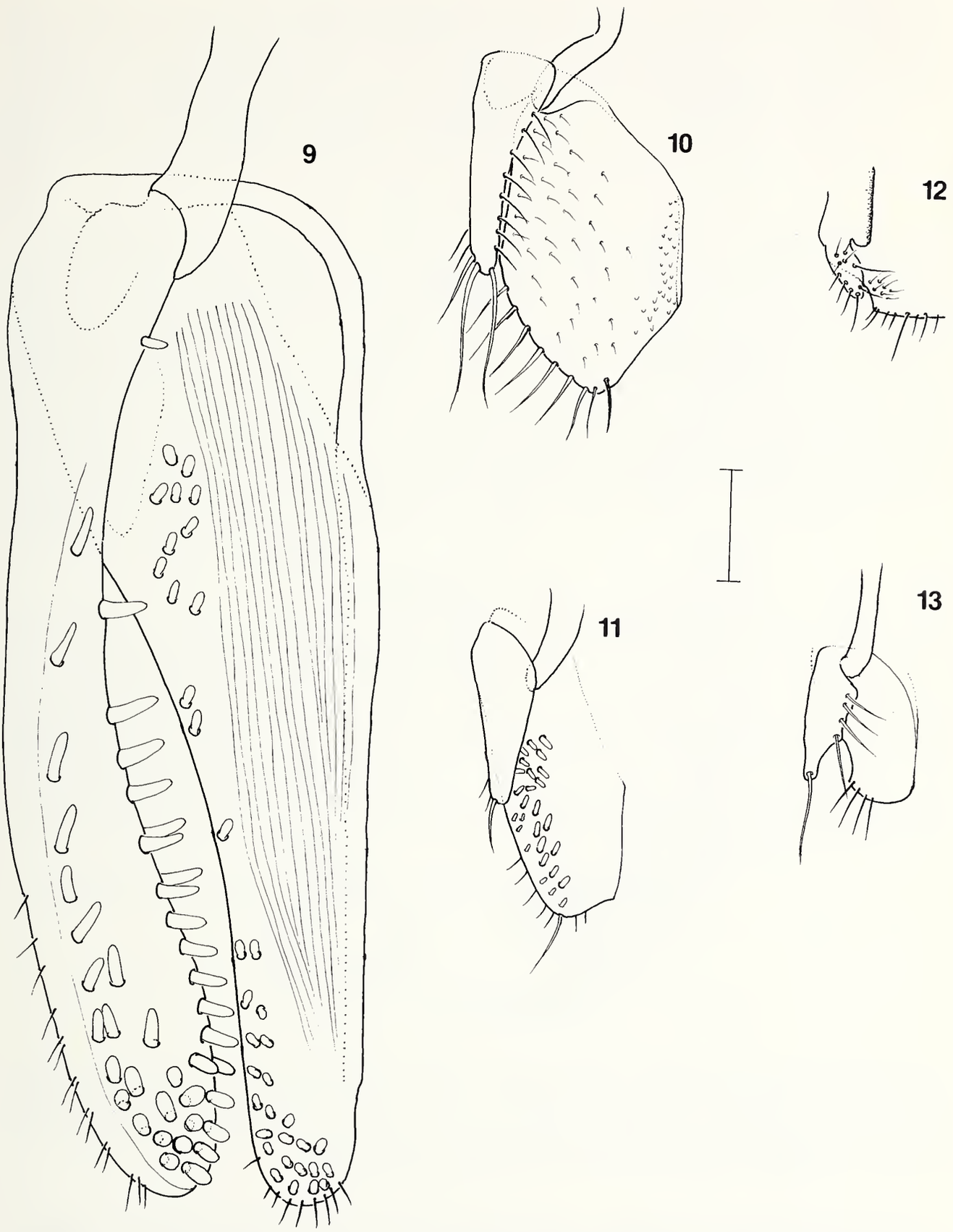
Although the terminalia offer excellent diagnostic characters, they have been little used to distinguish Old World species of *Placonotus*. Lefkovitch (1962) presented rather diagrammatic illustrations of the eighth abdominal segment, or claspers, of only two species, *P. subtruncatus* Lefkovitch and *P. africanus* Lefkovitch, and the entire terminalia of a third, *P. ealensis* Lefkovitch. These three species comprise Lefkovitch's *subtruncatus* species group, distinguished by their subtruncate elytra and separable only on characters of the male terminalia.

In addition to the claspers, the structure of the parameres, median lobe, and the armature of the internal sac are valuable taxonomically, although they require slide-mounting for proper examination. Thomas (1984) illustrated the parameres, ventral claspers, and internal sac of the two African species, *P. politissimus* and *P. majus,* occurring in the New World (in that publication, the captions on figs. 13 and 14 are reversed).

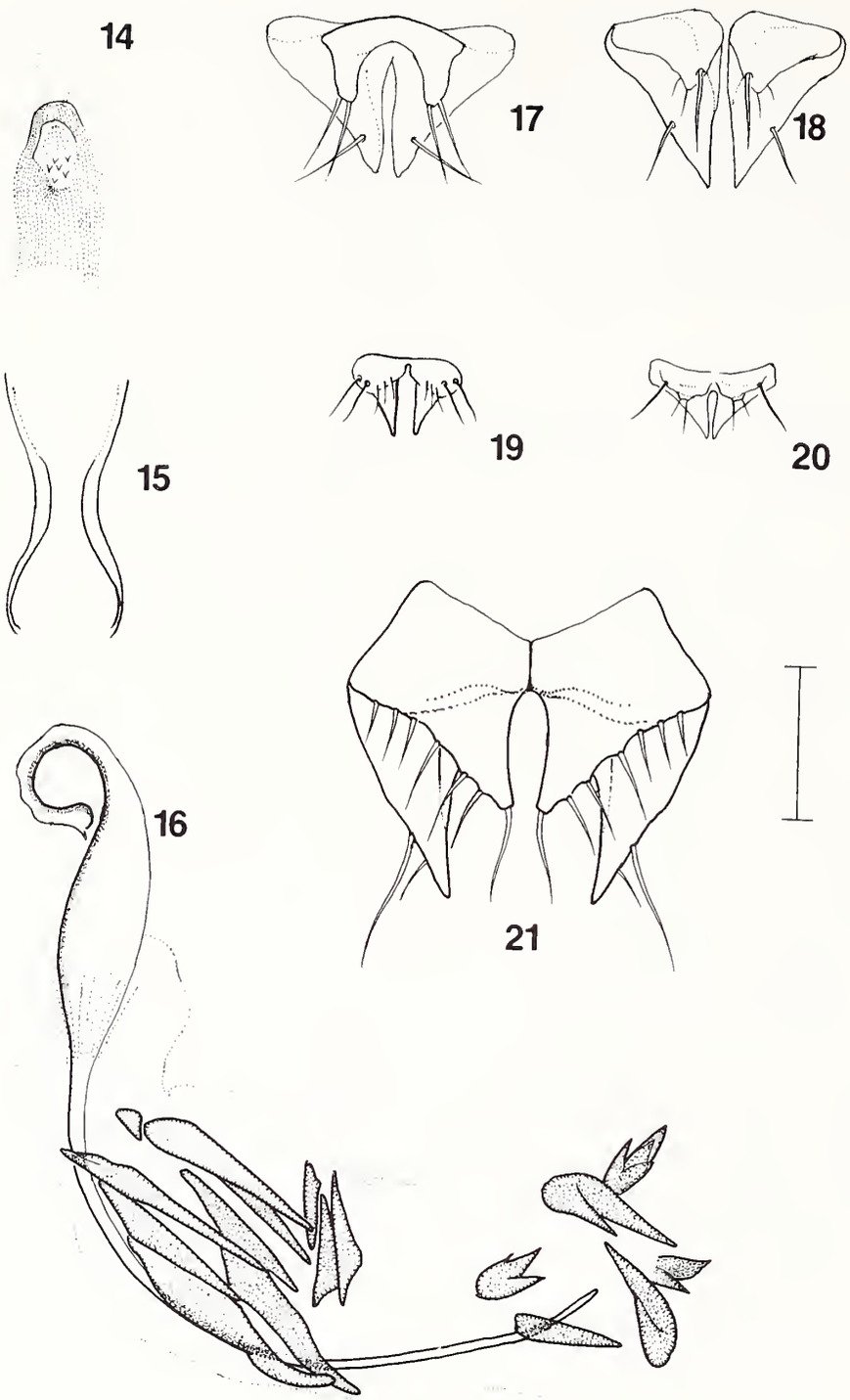
In addition to those of *P. embuensis,* diagnostic structures of the terminalia of five African species are presented here. Identification of specimens was based on the key in Lefkovitch (1962).

The structure of the claspers of *P. decoratus* (Fig. 9) suggests a close relationship with *P. africanus*; certainly both the claspers and the armature of the internal sac (Fig. 16) are similar to the corresponding structures found in the members of the New World *modestus* species group (see Thomas, 1984). A close relationship between *P. africanus* and the members of the *modestus* species group has been suggested previously (Thomas, 1984).

Based on the structures of the terminalia as illustrated by Lefkovitch (1962), the other two species of the *subtruncatus* group are not as similar to *P. africanus* as is *P. decoratus,* which also has subtruncate elytra. However, the parameres in *P. decoratus* (Fig. 21), and especially the ventral processes of the basal piece (Thomas, 1984), are also quite similar to those of *P. politissimus,* a species considered by Thomas (1984) to be of uncertain affinities.



Figs. 9–13. Eighth abdominal segment ("claspers") of *Placonotus* spp., dorsal view. 9. *P. decoratus* (Grouvelle). 10. *P. donaciodes* (Wollaston). 11. *P. bolivari* (Grouvelle). 12. *P. mestus* (Lefkovitch). 13. *P. mossus* Lefkovitch. Line = 0.006 mm.



Figs. 14–21. 14. Armature of internal sac, *P. mossus* Lefkovitch. 15. Same, *P. donacioides* (Wollaston). 16. Same, *P. decoratus* (Grouvelle). 17. Parameres of *P. donacioides* (Wollaston); 16. Same, *P. bolivari* (Grouvelle). 19. Same, *P. mestus* Lefkovitch. 20. Same, *P. mossus* Lefkovitch. 21. Same, *P. decoratus* (Grouvelle). Line = 0.006 mm.

The parameres and ventral processes (Fig. 13) of *P. bolivari* Grouvelle show some similarities with those of *P. decoratus* and *P. politissimus.* There are also some similarities in the claspers (Fig. 11), although in *P. bolivari* the ventral claspers lack peg setae. The two males of *P. bolivari* dissected did not have any armature of the internal sac; this would be a unique situation among known species of the genus. However, the armature of the internal sac may have been lost during dissection.

Although *P. donacioides* shares similar surface sculpture with *P. embuensis,* it is

very different in habitus (Fig. 8) and terminalia (Figs. 10, 15, 17). Individuals of *P. mossus* are distinctive in the African fauna due to their heavily microreticulate but impunctate dorsum. Their terminalia (Figs. 13, 14, 20), though, are similar to those of *P. mestus* Lefkovitch (Figs. 12, 19), especially the armature of the internal sac, which is here illustrated only for *P. mossus*.

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